Follow-up finds landmark steroid study remains safe 50 years on

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Credit: Bruno Abdiel from Pexels

A study has found there are no adverse long-term cardiovascular health consequences for the now-adult children of mothers who were given corticosteroids because they were at risk of early birth in a landmark
trial conducted in Auckland, New Zealand, 50 years ago.

The paper, "Cardiovascular outcomes 50 years after antenatal exposure to betamethasone: Follow-up of a randomised double-blind, placebo-controlled trial," was published in *PLOS Medicine*.

The Auckland Steroid Study by obstetrician Professor Graham "Mont" Liggins and pediatrician colleague Dr. Ross Howie from 1969 to 1974 in Green Lane Hospital, Auckland, found that two corticosteroid injections given to pregnant women at risk of early (preterm) birth halved the incidence of respiratory distress in the babies and significantly reduced neonatal deaths.

Co-author of the new study, Dr. Anthony Walters, says, "It was clear there were short-term benefits, but steroids are potent medications, and some have serious side effects."

He and colleagues carried out an analysis of the health data of 424 of the 1,218 infants born about half a century ago. Their research found no evidence of adverse consequences for cardiovascular health, pre-diabetes and diabetes—health issues that were a possible risk based on animal studies but unlikely to develop in humans until they reached middle age.

"We've proven we don't need to worry," Walters says. "We are confident that although preterm babies have a whole range of health problems as they grow up, these are not caused by the steroid."

The Liggins Institute continues to look at how steroids might be used as a treatment to reduce complications at birth, says Professor Dame Jane Harding of the Liggins Institute's LiFePATH research group. "There are ongoing trials about the use of steroids to prevent lung disease in newborn babies. This study provides reassurance that these trials should go ahead."
The study is part of the ANCHOR research program, following up on the original Auckland Steroid Study and the later ACTORDS study, a multi-center study at 23 centers across New Zealand and Australia between 1998 and 2004 to see if repeated courses of corticosteroids reduced the risk of lung disease and other serious illness.

**More information:** Anthony G. B. Walters et al, Cardiovascular outcomes 50 years after antenatal exposure to betamethasone: Follow-up of a randomised double-blind, placebo-controlled trial, *PLOS Medicine* (2024). [DOI: 10.1371/journal.pmed.1004378](https://doi.org/10.1371/journal.pmed.1004378)

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